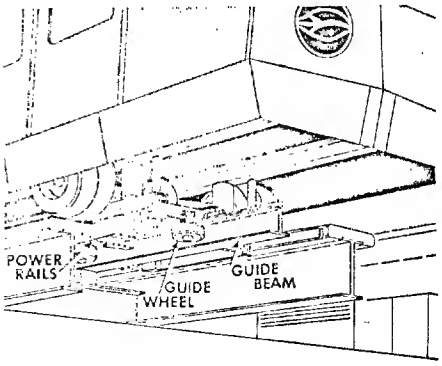
Automatic transit cars, running between the air terminal building and outlying boarding and deplaning areas, make the concept feasible

In anticipation of the need for a new terminal facility at the Tampa International Airport, the Hillsborough County (Florida) Aviation Authority started in 1961 to plan solutions to the problems of terminal sprawl.

New concept separates terminal functions

Called the Landside/Airside Concept and passenger transfer system, the new plan grew out of a study by airport consultant Leigh Fisher. It is based on the separation of such "Landside" functions as parking, baggage-handling, ticketing, and concessions in the central building from such "Airside" functions as apron operations, gate check-in, and passenger holding.



Passenger transfer system is the key

Separate facilities for the two types of functions are connected by an automatic transportation system that makes the concept feasible.

This system replaces the long walk in the terminal building with a brief, comfortable ride between the Landside and Airside buildings. It also shortens the walk from the parking area by centralizing parking facilities at Landside. Maximum walking distance will be only 700 feet—from automobile seat to airplane seat.

40-second ride

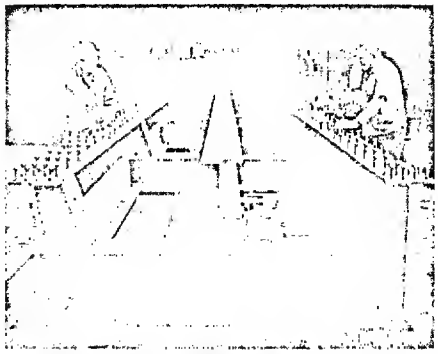
Late in 1970, air travelers will step into a bus-like car and be sped from the airline terminal to planeside in 40 seconds. Arriving passengers will get the same fast, smooth and quiet ride to the terminal from planeside.

Under a multimillion-dollar contract, Westinghouse Electric Corporation is supplying four automatic passenger systems, each of which has elevated parallel roadways for two computer-controlled, rubber-tired cars traveling in opposite directions.

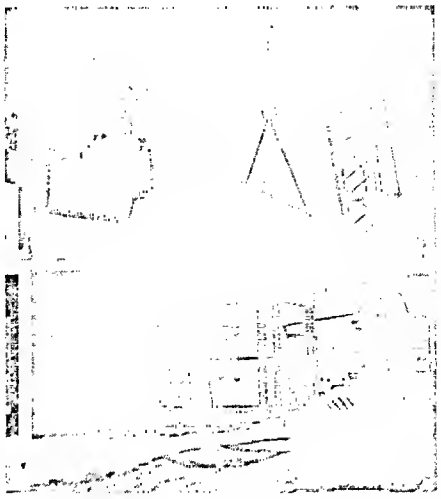
The four system legs, each approximately 1,000 ft long, reach out like spokes from the Landside to the Airside sites. As many as 125 passengers can be moved in each car, or at least 840 people in one direction in a 10-minute period.

Steel track spans

Two rolled-steel WF sections are used for each track span, one section under each dual-tired wheel of the transit car. The stringers vary from 30WF99 sections for the spans under 60 feet to 36WF245 sections for the 98 foot simple spans. Anchor studs are shop-welded to the top flanges of all stringers to insure composite action between the stringers and the cast-in-place concrete track slabs.



Typical steel span, made up of WF track stringers, guide beams and connecting diaphragms.



All stringers are laid in straight horizontal alignment but are cold-cambered for dead load, ½ live load and any vertical curves in profile.

Special rolled Bethlehem wide flange sections, 12½ inches deep with 8½ inch flanges and weighing approximately 75 lb per foot, are used for the guide beams which steer the cars and lock them to the tracks during operation. The guide beams centered between the track stringers also follow the final horizontal and vertical alignments of the track stringers.

The two WF stringers in each simple span track unit are shop welded together with WF diaphragms spaced at 15 foot maximum centers. The guide beam sections in the span assemblies are shop bolted to the diaphragms between stringers to permit adjustment, and then field welded at the connections after car ride and alignment acceptance.

Musselman Steel Fabricators, Tampa, Florida, fabricated 1,500 tons of shapes and plates for the track spans. All the steel was supplied by Bethlehem. Richardson, Gordon and Associates, Pittsburgh, were consulting engineers for the steel superstructure of the passenger transfer system.